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Presented before

HOUSE INTERNATIONAL RELATIONS COMMITTEE

SUBCOMMITTEE ON WESTERN HEMISPHERE

Energy Security in the Western Hemisphere

March 2, 2006

Mr. Chairman, members of the subcommittee, I would like to thank you for inviting me to brief you on the energy challenges facing the Western Hemisphere and their effects on U.S. interests. The Institute for the Analysis of Global Security is an independent research institute focused on energy security. I am also chair of the Set America Free Coalition, a bipartisan alliance of national security and foreign policy groups as well as scientists, environmental, religious, labor and business groups dedicated to reducing America's dependence on foreign oil.

President Bush's call for the U.S. to reduce its dependence on countries that "don't particularly like us," would seem to entail increased reliance on energy resources concentrated in areas that are not only geographically closer to the U.S. but also those less prone to political instability. Considering the growing instability in other energy domains, Western Hemispheric countries are still America's most appealing option, though far from being a paragon of stability. Home to a seventh of the world's population, the Western Hemisphere has 13.5% of the world's conventional oil reserves. This amounts to about 160 billion barrels of oil, of which 101 billion barrels are concentrated in Central and South America, particularly in Venezuela, Brazil, Colombia, Ecuador, Argentina and Peru. These countries accounted for 8% of total world output in 2004. The U.S. has long relied on Western Hemispheric suppliers of oil and gas. Currently, about half of U.S. oil imports and over 95% of U.S. gas imports are from the Western Hemisphere, particularly Canada, Mexico, and Venezuela.

In an era of increasing volatility in the Persian Gulf and the Gulf of Guinea, it is more critical than ever that the Western Hemisphere be a reliable source of supply. However, recent events have shown that some Western Hemispheric energy suppliers are not immune to disruption and political changes cast a doubt over their future relations with the U.S. From Bolivian riots over natural gas policy, to Venezuelan rumblings about shifting export focus away from the U.S., America's backyard is becoming a less certain and reliable source of supply. At the same time, developing Chinese interest in the region indicates that the U.S. will face growing competition by other energy hungry nations and can no longer take Western Hemispheric energy for granted.

In light of these developments, the U.S. needs a shift in policy to strengthen its relationships in the region and address South America's chronic poverty as well as insulate its economy from supply disruptions.

The biggest challenge to U.S. energy security in the Western Hemisphere is the consolidation of a so-called anti-imperialist bloc in South America, led by Venezuela's Hugo Chavez who appears to vying for Fidel Castro's mantel. When it comes to the region's energy security Venezuela, a founding member of the Organization of Petroleum Exporting Countries (OPEC) which owns 77.2 billion barrels of proven conventional oil reserves, is the most pivotal of all other Western Hemispheric nations. Venezuela also has an estimated 270 billion barrels of unconventional crude, 151 trillion cubic feet (Tcf) of proven natural gas reserves, a hemispheric endowment second only to that of the U.S., and 528 million short tons (Mmst) of recoverable coal reserves. It is the world's fifth-largest oil exporter and supplies more than 10 percent of American oil imports.

In recent years Venezuela has expressed its intention to part ways from the U.S. and reduce its dependence on the U.S. market, which now accounts for about two-thirds of the country's oil exports. The acrimonious relations between Caracas and Washington have yielded some stern warnings by Venezuelan officials that Venezuela might use the oil weapon should Washington assume an aggressive posture. Only last week, Venezuela's oil minister warned that his country could steer oil exports away from the U.S. and toward other markets and that for starters it will double exports to China to 300,000 barrels a day. Looking forward, Venezuela expressed its desire to become the source of twenty percent of China's imported oil. Examining the trajectory of growth of China's oil demand, such a commitment would surely come at the expense of exports to the U.S. By 2025 China will require 15 million barrels per day, out of which 11 will be imported. Twenty percent of that is 2.2 million barrels per day, which surpasses Venezuela's current exports to the U.S.

To increase its choice of clients, Venezuela is positioning itself as an energy hub for the entire continent, creating interdependencies with many of the region's countries. Among its prospective regional integration projects are a 140-mile gas pipeline designed to link Venezuela and Colombia and a pipeline across Colombia to the Pacific Ocean intended to ease Asian access to Venezuela's petroleum. A proposed South American mega-pipeline that would carry natural gas southwards from the Caribbean Sea across the Amazon jungle to Brazil and Argentina is also on the drawing board. It is not clear whether the gas could be offered at a competitive price due to the huge investment required to build the pipeline, on the order of some $23bn. It is even less clear whether Venezuela would have the capacity to keep up such a large steady supply of gas. Which brings me to the issue of investment and replenishment of depleting reserves.

Of the region's largest energy producers, only Brazil and Ecuador still experience production growth. Conventional oil production in the rest, specifically Peru, Colombia, Argentina, Mexico and Venezuela, has been declining. According to a study by PFC Energy, non-OPEC Latin America's crude reserves are expected to peak around 2007 and decline steeply thereafter. Venezuela has been losing output of 1mbd per year since 2002.

Considering the projection that in the next two decades the region's own need for oil will nearly double, it seems that Latin America's long term ability to satisfy global oil demand will be increasingly compromised unless significant investment is made in both the upstream and downstream sectors. This is contingent on the creation of a hospitable investment climate for the oil majors. The region's energy markets opened at the beginning of the last decade, with the privatization of Argentina's national oil company and the deregulation of its upstream production. In 1995, Venezuela began opening up parts of its petroleum sector to foreign investment. Brazil also liberalized its petroleum sector through a constitutional amendment, eliminating the state monopoly on fuel importation and offering offshore oil-lease licensing contracts. But despite past positive movement, there is still a troubling lack of free-market conditions throughout the region. More recently operating terms for foreign investors in some countries have worsened and state control has tightened. Since Venezuela's oil production was disrupted by a strike by employees in December 2002 and January 2003 President Hugo Chavez has tightened his nationalistic political control over the country's national oil company, PDVSA. The ouster of a large portion of PDVSA's technical talent following the strike has no doubt impacted its reserve management abilities and does not bode well for future production. Venezuela also follows a global trend of reduced transparency regarding oil producing countries' reserve data and less openness to foreign investment. Last month, Venezuela's Energy Minister Rafael Ramirez said that PDVSA would no longer file financial reports with the SEC as the country moves to reduce its traditional reliance on the U.S.

Additionally, Venezuela has significantly worsened the terms under which foreign oil companies can operate within its borders, changing the structure of agreements, drastically increasing royalties, and charging billions in backtaxes based on retroactively changed rulings on tax status. The current high price of oil is giving Chavez the leverage to execute these changes as despite mutterings of protest foreign oil companies have grudgingly acquiesced to these demands. Bolivia also drastically increased taxes on energy production, adding a 32% levy above and beyond an existing 18% royalty, and energy operators in that country are being renationalized. This will doubtless serve to dampen future development of the country's oil and natural gas resources. It is worth noting that the past several governments in Bolivia were toppled due to protests over energy issues. Similar problems appear in other regional producers. Attempts to reform Ecuador's oil sector in order to attract investment have been struck down by the country's legislature. Mexico energy sector is still closed to foreign investment and Pemex, Mexico's national oil company, has had to dramatically revise its reserve figures.

Adding fuel to the fire are riots, sabotage and terrorism. Protestors in Ecuador have repeatedly taken oil workers hostage, sabotaged installations, and disrupted production. Over the years attacks on the Cano Limon pipeline in Colombia have been so frequent that the pipeline is called "the Flute." While the frequency of attacks has decreased they still occasionally cause significant disruption. Pipeline sabotage also occurs in Venezuela. Last December the Ule-Amuay oil pipeline which goes from Lake Amraicaibo, at the center of Venezuela's oil industry to Paraguana, the world's largest oil refining facility, was bombed right before the elections.

Mr. Chairman, despite all the problems posed by Latin American producers, considering the chronic instability in other domains like West Africa and the Middle East it seems that there could not be better potential for partnership between the supply side and the demand side that that of Latin America and the U.S. Latin America poses less underlying complexity than other regions and can therefore continue to be a major supplier of energy to the U.S. But this can only happen through true commitment to open markets and continued liberalization and privatization. As anti Americanism spreads across the world it is critical that the U.S. maintain its strategic posture and popular support in the Western Hemisphere. This can be done through increased effort to promote democracy, economic reforms and good governance and, no less importantly, by enriching our neighbors and promoting economic interconnectedness with them. Energy is one of the areas in which such mutually beneficial relations can be easily established. Beyond conventional energy sources, there are two potential areas for energy cooperation:

Non-conventional petroleum

If the Western Hemisphere has any future in oil production it is in the field of non-conventional sources of petroleum such as extra heavy oil, tar sands and oil shale. By 2010 only 4% of the world's oil will come from non-conventional sources, but clearly the next several decades will show increasing role of these energy sources. About 1.2 trillion barrels of extra heavy oil are in place in Venezuela. At current technology and prices only 2-3% of this endowment is economically recoverable but it is likely that 100-270 billion barrels will eventually be economically recoverable. In Canada, there are close to 180 billion barrels which can be derived from Alberta's tar sands. Of this endowment, about 20% are economically recoverable at current market conditions. Shifting to non-conventional oil requires substantial investment and a long lead time. In most cases the production of non-conventional crude consumes other hydrocarbons. For example, extraction of oil from Canada's tar sands endowment requires a large amount of natural gas, which has negatively impacted Canada's ability to pipe gas to the U.S. This has brought about an increased U.S. need for LNG imports. While significant additions of supply are expected from non-conventional sources in the decades to come, one should remember that not all of this supply will go to the U.S. China and India are likely to buy ever increasing shares of non-conventional crude, hence limiting its availability to the U.S. market.

Turning Latin America into the Middle East of sugar alcohol

President Bush's vision of reducing America's oil dependence entails a shift to alternative transportation fuels and the vehicles that can run on them. Large scale deployment of ethanol requires the development of new ways to convert cellulosic material into alcohol. Though a great deal of effort is being made on this front it remains to be seen whether such conversions are economically and technologically feasible on a commercial scale. But to date, the best feedstock for ethanol production is sugar cane. About twenty percent of the fuel used in Brazil is made from this crop. Sugar needs a long, frost-free growing season and expansion of sugar growing beyond Florida, the Gulf Coast and Hawaii is limited. Latin American and Caribbean countries, on the other hand,

including Brazil, Guatemala, Panama, Trinidad and Tobago, Costa Rica, El Salvador and Jamaica-- all low-cost sugar cane producers--could become key to U.S. energy security if they turn their crop into ethanol. Brazil, the Saudi Arabia of sugar, already exports half a billion gallons of ethanol a year and could provide the U.S. with cheap ethanol. "We don't want to sell liters of ethanol, we want to sell rivers," Brazil's Agriculture Minister Roberto Rodrigues said last year.

Expanding U.S. fuel choice to include biofuels imported from our neighbors in the Western Hemisphere would have significant geopolitical benefits. Encouraging poor sugar growers to increase their output and become fuel suppliers to the U.S. could have far-reaching implications for their economic development, and help maintain a U.S. sphere of influence in the region. By opening the market to these countries and increasing economic interdependence with its neighbors in the Western Hemisphere the U.S. will decrease the likelihood that those poor countries adopt an anti-American posture and fall on the side of leader like Hugo Chavez who is securing their support with favorable terms for oil, or on the side of China which has already set its sights on Western Hemispheric energy supplies and has built the world's largest ethanol plants.

Today such a vision is prevented due to a protectionist policy which imposes stiff tariffs on ethanol imports. Oddly, we are willing to import petroleum from Saudi Arabia tax-free but not ethanol from Brazil. Blocking ethanol imports to the U.S. to protect corn growers not only undermines U.S. energy security but also has geopolitical consequences. While the U.S. could encourage sugar growers in Latin and Central America to increase their output and become fuel suppliers, creating a virtuous cycle of economic cooperation with its neighbors, it is China that is doing just that.

I therefore commend Rep. Burton and Rep. Engel for their leadership on The Fuel Choices for American Security Act (H.R. 4409) sponsored by Rep. Kingston which aims, among other useful provisions, to remove this barrier to free trade which undermines energy security. The Bill is the most comprehensive legislative package on oil savings that has come before this House in many years. It provides a real plan for energy security by looking beyond just petroleum to tap the entire spectrum of energy resources available to meet U.S. energy demand. The Bill recognizes that while we have already diversified our power sector away from petroleum the U.S. transportation sector is over 97% oil dependent. The stability and security of fuel supply to the transportation sector, which underlies the modern economy, can be significantly strengthened by diversifying the supply chains which it can tap.

U.S. oil import dependence has increased from 30% during the Arab oil embargo to over 60% today. As should be clear from the instability rife in the U.S.' backyard, there is a limit to what the U.S. can do to stabilize oil producers that are even further afield. The U.S. thus needs to look internally toward measures that can be taken to insulate its energy supply to price shocks. Since two thirds of U.S. oil consumption is in the transportation sector, increasing fuel choice in the transportation sector is an effective way to do that. A shift to flexible fuel vehicles, that can run on any combination of gasoline and alcohols including ethanol and methanol, and to plug-in hybrid electric vehicles that can tap the

electricity grid for a portion of the day's driving needs, particularly appealing since only 2% of U.S. electricity is generated from oil, and accelerated deployment of advanced vehicle technologies which increase efficiency would serve to reduce U.S. exposure to risks that it can not manage.